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 January 20, 2010

SUBJECT: REPLY TO A NOTICE OF VIOLATION  
 REFERENCE: REPORT NO: 70-1151/2009-201

- References:
- 1) Letter, Patricia Silva to Cary Alstadt, Inspection Report No: 70-1151/2009-201 and Notice of Violation, April 23, 2009
  - 2) Reply to a Notice of Violation, Report No: 70-1151/2009-201, Westinghouse letter LTR-RAC-09-42, May 20, 2009
  - 3) Letter, Daniel Dorman to Cary Alstadt, Response to Disputed Violation 70-1151/2009-201-01, EA-09-185, August 7, 2009
  - 4) Reply to a Notice of Violation, Report No: 70-1151/2009-201, Westinghouse letter LTR-RAC-09-68, September 3, 2009
  - 5) Letter, Patricia Silva to Cary Alstadt, Reply to Notice of Violation 70-1151/2009-201-01, December 1, 2009

Pursuant to the provisions of 10 CFR 2.201, Westinghouse Electric Company LLC (Westinghouse) herein provides a response to your letter of December 1, 2009, regarding your inspection of the Columbia Fuel Fabrication Facility (CFFF) conducted onsite March 23 - 26, 2009 and subsequent communications in which Westinghouse requested and was granted an extension to respond to Reference 5 by January 20, 2010.

Appendix A provides this modified reply to the violation of NRC requirements specified in the Notice of Violation and subsequent correspondence. Westinghouse reserves the right to adjust the responses should a consensus with NRC on this issue be achieved that results in a different interpretation of the governing regulations. Such an interpretation may result from ongoing initiatives related to design features.

I hereby affirm that the statements made in this response are true and correct to the best of my knowledge and belief. Should you have any questions or require additional information, please telephone Marc A. Rosser of my Staff at (803) 647-3174.

Sincerely,

Cary D. Alstadt, Manager  
 Columbia Fuel Fabrication Facility

Attachment: Appendix A

FE07  
 R6U11

cc: U. S. Nuclear Regulatory Commission  
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Attn: Christopher Ryder, Project Manager

**APPENDIX A****WESTINGHOUSE RESPONSE TO ADDITIONAL INFORMATION FOR CITED NOTICE OF VIOLATION**

- A.1 Westinghouse submitted in Reference 4 an updated response to the violation originally transmitted by Reference 1. Subsequent Nuclear Regulatory Commission (NRC) review and analysis of the Westinghouse response was documented in Reference 5. NRC did conclude that the corrective actions to restore compliance for each of the three systems were considered adequate. However, NRC stated that the actions to prevent recurrence were not adequately addressed, and the designation of specific configuration control elements was inappropriate. The information presented below is provided to address the matters raised by NRC and to address the actions taken for the entire facility to prevent recurrence of this violation.

*Further Discussion*

NRC also noted “however, the configuration management program and raschig ring testing are management measures and should not be designated as Items Relied On For Safety (IROFS). The management measures' contribution to safety should be factored into the assigned availability and reliability of the IROFS; no additional risk reduction can be credited by designating management measures as IROFS.” Westinghouse position is that the scenarios were incredible as analyzed in the thorough and upgraded Criticality Safety Evaluations (CSEs), and the accident sequences remain incredible regardless whether or not the design features are designated as IROFS, or any other supporting programs or tests. No additional risk reduction is specifically credited for these management measures as the scenarios remain incredible. The designation as IROFS addresses the formality of these inherently safe Passive Design Features, [Passive Engineered Safety Significant Control (SSC)] being documented in the ISA summaries for those systems and as such reported to the NRC. For the specific Raschig ring testing, the required plant outage, extensive work planning and complex targeted procedures required for that evolution do not justify it being considered solely a management measure. Westinghouse does agree that the configuration management program is a management measure and the overall program is discussed as such in the ISA Summaries and the SNM-1107 License Application. The robust nature of the CFFF configuration control process can be relied upon to ensure that no “planned modification” that would alter a design feature identified as a Passive Engineered Control (SSC) can be executed without the review and approval of the process owner, process engineer and the EH&S regulatory disciplines.

One of the major benefits the revision to Part 70 hoped to achieve were (1) a clear definition of the performance requirements for facilities licensed under Part 70, (2) a more transparent documentation for the basis of safety (ISA Summary) and (3) a grading of those controls that are necessary for a facility to meet the performance requirements (IROFS). This third point is the key to improved predictability and consistent safety performance because through the identification of IROFS using the ISA process the licensee's major attention is focused on those controls most important to safety. This also allows NRC oversight to be similarly focused. Westinghouse intentionally embarked on a campaign to utilize design features (passive engineered controls) to reduce to the greatest extent possible the potential for a nuclear criticality accident from our operations. Designation of IROFS for

incredible scenarios appears counterintuitive to the objective to maintain the focus of Westinghouse personnel and the NRC inspectors on areas of higher risk.

**A.1.a ACKNOWLEDGEMENT OF THE VIOLATION**

WEC has previously acknowledged the violation as identified in Inspection Report and Notice of Violation, Report Number: 70-1151/2002-201 in Reference 4.

**A.1.b REASON FOR THE VIOLATION**

The reason for the violation is that the implementation of the Integrated Safety Analysis (ISA) Handbook criteria, Section 7.2, for those events determined to be incredible was less than adequate. Compliance with Section 7.2 of the ISA Handbook is required by the SNM-1107 License Application, Section 4.

**A.1.c CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED**

The corrective actions related to the three example systems' IROFS designations have been completed and they are included in the annual update of the ISA to be provided to NRC by the end of January 2010.

ISA Handbook Section 7.2.3 will be revised by the end of January 2010 to include the following two (2) revisions:

- 1) "Consistent with Table 7.2 index scores, those accident sequences evaluated as part of the ISA process (e.g., Criticality Safety Evaluation) may ultimately conclude that a given accident sequence is *Not Credible* (index score less than or equal to -5). For those sequences in which this conclusion is based on an inherently safe Passive Design Feature, [Passive Engineered Safety Significant Control (SSC)], then the passive engineered SSC will be designated as an IROFS, with an additional administrative IROFS established to provide for EH&S regulatory review of all work packages issued within the IROFS Boundary."

In addition the following statement within Section 7.2.3 "Any one of the following three independent acceptable sets of qualities could define an event as not credible, and therefore do not have to be considered in the ISA:" will be revised to read:

- 2) "For the criticality safety discipline, any one of the following three independent acceptable sets of qualities could define an event as not credible and may be applied to determine if a given accident sequence is not-credible during the PHA, OR a specific evaluation will be conducted within the Criticality Safety Evaluation to determine if a given scenario is incredible.

For the non-criticality safety disciplines, any one of the following three independent acceptable sets of qualities could define an event as not credible, and therefore do not have to be considered in the ISA:"

**A.1.d ACTIONS TO PREVENT RECURRENCE**

The Configuration Management element of the Management Measures at the Columbia Fuel Fabrication Facility (CFFF) provides a high level of assurance that Passive Design Features (Passive Engineered Controls) remain in place and true to the analyzed design configuration. In this regard Configuration Management should be viewed as an integrated system of procedures, organizational structure, training, and supportive activities including routine audits, inspections and Environmental Health and Safety (EH&S) reviews of proposed modifications. At CFFF this is accomplished primarily

through the requirements of procedures TA-500 and RA-104. As implemented at CFFF, these management measures procedurally apply to SSCs as well as IROFS and therefore ensures these that design features are available and reliable to perform the function analyzed. The deficiencies identified in the Notice of Violation are therefore unlikely to translate into an actual safety issue.

EH&S has completed a preliminary review of the implemented Criticality Safety Evaluations to determine the potential impacted scenarios. Based on this preliminary review, there are approximately 650 scenarios that are evaluated in the Criticality Safety Evaluations as incredible, with the majority compliant with the current criteria outlined in Section 7.2.3 of the Handbook repeated below:

“Any one of the following three independent acceptable sets of qualities could define an event as not credible, and therefore do not have to be considered in the ISA:

- An external event for which the frequency of occurrence can conservatively be estimated as less than once in a million years
- A process deviation that consists of a sequence of many unlikely human actions or errors for which there is no reason or motive. (In determining that there is no reason for such actions, a wide range of possible motives, short of intent to cause harm, must be considered. Necessarily, no such sequence of events can ever have actually happened in any fuel cycle facility)
- Process deviations for which there is a convincing argument, given physical laws, that they are not possible, or are unquestionably extremely unlikely. (The validity of the argument must not depend on any feature of the design or materials controlled by the facility’s system of SSCs or management measures)”

Preliminary review indicates that approximately 190 scenarios contain design features (passive engineered control SSCs) which will require designation as IROFS and have the additional administrative IROFS imposed for work within the IROFS Boundary.

To accomplish this task the following activities will need to be conducted:

- Formally review and document in a report for each of the implemented CSE those incredible scenarios containing passive engineered controls (SSCs) and which of the revised ISA Section 7.2.3 criteria apply. Clearly identify for those sequences in which this conclusion is based on an inherently safe Passive Design Feature, [Passive Engineered Safety Significant Control (SSC)], that the passive engineered SSC will be designated as an IROFS and define the IROFS Boundary. Date: March 31, 2010.
- Issue a new or revise an existing RA-120 policy to address the work package review requirements for the above Passive Design Features. Date: March 31, 2010.
- Develop the protocol for the routing of any specific work package that impacts the IROFS Boundary for above Passive Design Features IROFS. Date: April 30, 2010.
- Modify the applicable Safety Significant Control Sketches and train operations, maintenance and EH&S staff and implement the revised process. Date: July 30, 2010.

**A.1.e DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Compliance with the implementation actions will be achieved on July 30, 2010. The applicable ISA Summaries will be revised at the annual update in accordance with 10CFR 70.72(d)(3). Westinghouse reserves the right to adjust the responses should a consensus with NRC on this issue be achieved that results in a different interpretation of the governing regulations. Such an interpretation may result from ongoing initiatives related to design features.